6/4/98

COMMON SENSE INITIATIVE (CSI) COUNCIL RECOMMENDATION ON CATHODE RAY TUBE (CRT) GLASS-TO-GLASS RECYCLING

Based on in-depth work conducted by the CSI Computers and Electronics Sector Subcommittee, the CSI Council has determined that properly conducted Cathode Ray Tube (CRT) glass-to-glass recycling is a cleaner, cheaper, smarter approach to waste CRT management that should be increased. To facilitate accomplishing that goal, the CSI Council recommends that the Environmental Protection Agency:

1. Revise the applicable Resource Conservation and Recovery Act (RCRA) hazardous waste management regulations to facilitate CRT glass-to-glass recycling as outlined in Attachment 1. The revised CRT glass-to-glass recycling regulations should be clear and simple to understand. The Council asks that, as appropriate, EPA discuss with members of the Computers and Electronics Sector Subcommittee any new issues that arise during rule development and implementation.

2. Complete and implement this CRT rulemaking as soon as possible, and in the intervening period, take appropriate steps to realize the environmental benefits of CRT glass-to-glass recycling.

Finally, the CSI Council recognizes that there may be CRT glass recycling methods or end uses other than CRT manufacturing that are also cleaner, cheaper, and smarter approaches to waste CRT management. On the other hand, some recycling methods or end uses may pose risks to human health and the environment. The Computers and Electronics Subcommittee will be working to determine which recycling methods and end uses are preferable and to propose appropriate standards for such methods, but the Council is aware that the future of the Common Sense Initiative is undefined at this time. Thus, the Council asks that EPA consider any additional work completed by the Sector, and if appropriate, design the CRT glass-to-glass rule so that other legitimate recycling methods or end uses may be added in the future, including standards tailored to the risks and benefits of the recycling method or end use. The Council takes no position on the question of whether states should be allowed to add additional recycling methods or end uses without a prior determination by EPA.

ATTACHMENT 1
COMMON SENSE INITIATIVE COUNCIL RECOMMENDATION
CATHODE RAY TUBE (CRT) GLASS-TO-GLASS RECYCLING

1. Add to the Resource Conservation Recovery Act (RCRA) hazardous waste management regulations new standards specific to CRT glass-to-glass recycling which will apply in place of the standard RCRA hazardous waste requirements. These new standards are to be structured in a manner similar to the Universal Waste rule (40 CFR Part 273). The regulation will include an exclusion from the definition of solid waste clarifying that processed CRT glass[1] that is to be reused in CRT glass manufacturing is not a solid waste subject to the RCRA hazardous waste regulations (including the new CRT standards described here). The Council recommends that EPA promulgate this exclusion because the processed CRT glass is sufficiently commodity-like based on the following factors: 1) the degree of processing the material has undergone is such that it requires little, if any, further processing, 2) the material has economic value, 3) the material is like an analogous raw material, and 4) there is a guaranteed end market for the material. Based on the information currently available to it, the Council also believes that the material is handled to minimize loss, but requests that EPA conduct whatever investigation EPA determines is appropriate to reach a final conclusion regarding this factor.

2. The new CRT glass-to-glass recycling standards will explain that they apply only to materials that are currently regulated hazardous waste. However, the standards will explain that the goal is that the standards be simple enough that one infrastructure develops for voluntarily managing all CRT materials in the same system.

3. The new CRT glass-to-glass recycling standards will define the following three categories of regulated entities:

   Collectors: Persons who collect/store whole TVS/monitors. Within this category, some requirements will apply only to large collectors (those who store 40 tons or more (~ 4,000 units) on-site for longer than 7 consecutive days).

   Processors: Persons who:

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[1] Processed CRT glass is glass that has been separated from non-glass components (e.g., TV/monitor plastic and metal components, implosion band, shadow mask, deflection yoke, electron gun, inner shield) and which has been cleaned to remove coatings (e.g., day, phosphors).

-- intentionally break CRTs;
-- manage intentionally broken CRT glass or cullet; or
-- clean coatings (e.g., dag, phosphors) from CRT glass.

Transporters: Persons who transport TVS/monitors, whole CRTs, broken CRT glass, or cullet.

Entities involved in refurbishment and disassembly of products containing CRTs (not to include taking apart the CRT[2]) are not subject to this standard or the RCRA hazardous waste regulations (40 CFR Parts 260 through 270) (on the basis of the CRT itself) until it is determined that these materials are not repairable or reusable. EPA will consider what safeguards are necessary, if any, to address environmental concerns associated with accumulation of large volumes of CRTs.

4. The new CRT glass-to-glass recycling standards will include the provisions illustrated in the following Table and detailed in Annex 1.

[2] EPA will consider other refurbishing activities that should be addressed in the same manner.

PROVISIONS APPLICABLE TO CRT GLASS-TO-GLASS REGULATED ENTITIES

	REGULATED ENTITY		
PROVISION	**Collector**	**Processor**	**Transporter**
1. Notification	large collectors only	X	
2. Marking (on-site and for transport)	X	X	
3. Storage Limit	X	X	X
4. Shipping CRT Glass Materials	large collectors only: shipments out	X	
5. General Performance Standard	X	X	X
6. Prevent Releases of Glass Particulate		X	
7. General Good Management	X	X	X
8. Minimize Breakage	X		X
9. No Cross Contamination		X	
10. Manage Residues Appropriately		X	
11. Environmental Justice Provision		X	
12. Package for Transport	X	X	
13. Exports	X	X	

ANNEX 1: CRT GLASS-TO-GLASS RECYCLING PROVISIONS

1. **Notification:** One-time notice to the agency implementing the hazardous waste regulations (EPA or the state) of company name, location, activities, etc.

2. **Marking:** Materials must be marked in accordance with either (1) or (2) below.

(1) CSI/CRT approach:
   (a) Whole TVS/monitors visible when looking at primary packaging (container or vehicle body): no marking required.
   (b) TVS/monitors, bare CRTs, and glass in packages (i.e., containers or vehicle bodies) or storage areas: mark container or storage area with the following words: "Cathode ray tubes (CRT) or CRT glass to be used in CRT glass manufacturing. Contains lead. Do not mix with other glass or materials."

(2) Universal Waste approach for materials in transportation: If the state in which the shipment originated has Universal Waste marking standards (i.e., labeling with text) for the material: mark (label) the material as required under the originating state's Universal Waste program.

3. **Storage Limit:** Collectors -- 1 year+ as described in 40 CFR 273.15. Processors -- 1+ year as described in 40 CFR 261.1(c)(8). Transporters -- 10 days as described in 40 CFR 273.53.

4. **Shipping CRT Materials:** Maintain records for 3 years. No specified form for records.

Small and large collectors -- may send shipments only to other collectors or to processors in CRT system.

Large collectors -- for each outgoing shipment, keep records of quantity, date, name and address of person shipped to, and an acknowledgment of receipt from the recipient.

Processors -- 1) all TC hazardous glass that is technically and economically usable in CRT glass manufacturing must be sent to a CRT glass manufacturer for use in CRT glass manufacturing. 2) for each incoming and outgoing shipment, keep records of quantity, date, name, and address of person shipped to, and an acknowledgment of receipt from the recipient. 3) Annually, prepare a certified statement stating that all TC hazardous glass that is technically and economically

usable in CRT glass manufacturing was sent to a CRT glass manufacturer for use in CRT glass manufacturing.

5. **General Performance Standard:** Manage and/or transport CRT materials in a way that prevents releases to the environment of glass pieces, glass particulate, other components, and materials used in processing (e.g., cleaning or sorting media). Immediately contain any releases to the environment and manage contained material under applicable waste management requirements.

6. **Prevent Releases of Glass Particulate:** For any storage or management activities involving breaking glass or managing broken glass, install and maintain systems sufficient to minimize releases of glass and glass particulate via wind dispersal, runoff, and direct releases to soil. (Examples of wind dispersal control systems may include: a good condition building; closed containers; closed tanks; keeping materials stored or managed outdoors covered, or wet, as appropriate. Examples of systems for preventing releases to soil directly may include: an impervious floor or pad; a good condition building. Examples of systems for preventing releases via runoff may include: a good condition building; implementing an approved storm-water management plan; adequate run-off controls.)

7. **General Good Management:**
   -- Collectors, Processors, Transporters -- no disposal on-site
   -- Collectors and Transporters -- no dilution, no treatment (dismantling, intentional breakage, processing)
   -- Processors -- no combustion or treatment activities using temperatures high enough to volatilize lead from CRT glass, no storage or processing in surface impoundments

8. **Minimize breakage:** Collectors -- manage to minimize breakage of TVS/monitors. Transporters -- transport to minimize breakage of TVS/monitors, CRTs, glass pieces.

9. **No Cross-Contamination:** Do not mix TC hazardous CRT glass with other glass that is not going to CRT glass manufacturing. Blending of glass that is going to glass manufacturing is allowed.

10. **Manage Residues Appropriately:** Manage any components removed during dismantling, any residues separated from glass (e.g., coatings), and residues from processing glass (e.g., blast media, cleaning media, dust, floor sweepings, glass

fines) under applicable waste management requirements (hazardous waste, solid waste).

11. **Environmental Justice:** For new processors -- implement a procedure for advising the local community of the nature of the activities to be conducted, including the limited potential for resident and worker exposure to lead or chemical coatings. This procedure should include notice to the community, and a public meeting if requested by the community. A local, state, or federal governmental authority must approve the text of the notice and the notice procedure, and must conduct the meeting, if any. If preexisting state or local siting/zoning or other procedures meeting these standards are followed, no additional action is necessary.

12. **Package for Transport:** Materials must be packaged in accordance with either (1) or (2) below.

    (1) CSI/CRT approach:

        (a) Package TVS, monitors, or whole CRTs in a way that minimizes breakage during normal shipping conditions. The packaging must minimize releases to the environment if unintentional breakage does occur. For example, if TVS and monitors are shrink wrapped onto pallets in such way that broken pieces of glass might not be contained, the packed pallets should be placed in an outside package (e.g., a box or vehicle body) that will minimize releases.

        b) Package broken CRTs, CRT glass pieces, or CRT glass cullet in siftproof[3] packaging (i.e., a container or vehicle) that is constructed, filled, and closed so that: (I)There will be no identifiable releases of CRT glass to the environment, and (II) The effectiveness of the package will not be reduced during normal shipping conditions. For example, packages should be resistant to puncture by glass pieces.

    (2) Universal Waste approach for materials in transportation: If the state in which the shipment originated has Universal Waste packaging standards for the material: package the material as required under the originating state's Universal Waste program.

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[3] 'Siftproof' packaging means packaging impermeable to dry contents, including fine solid material produced during transportation, or packaging that prevents particles from being released from the package.

13. **Exports:** For shipments of materials that are hazardous waste, other than processed CRT glass (without coatings) -- comply with 40 CFR 262 Subparts E or H (export notice and consent procedures for non-OECD and OECD countries), revised to specifically identify the recipient as a CRT glass manufacturer, or a collector/ processor shipping to a CRT glass manufacturer (also identify the manufacturer).

    For shipments of processed CRT glass (without coatings) to OECD countries: annual report to EPA summarizing the number of shipments and volume sent to each recipient (by country), and identifying the recipient CRT glass manufacturer.

    For shipments of processed CRT glass (without coatings) to non-OECD countries: annual notification to EPA 90 days prior to first shipment to each recipient, identifying the country, the recipient CRT glass manufacturer, and the expected number and volume of shipments to be sent that year.

    Imports: Once a shipment of CRT materials that is to be used in CRT glass manufacturing enters the country, comply with the CRT glass-to-glass standards.